

### QUESTION

A 68-year-old male patient with a long history of hypertension and hyperlipidemia presents to the emergency department with a 2-day history of severe, crushing chest pain. The pain is described as a heavy weight on his chest and is not relieved by rest or nitroglycerin. He has a history of smoking 20 cigarettes per day for 30 years. His medical history is notable for a myocardial infarction 10 years ago and aortic aneurysm. He is currently on lisinopril, statins, and aspirin. On arrival, he is diaphoretic, pale, and has a heart rate of 110 bpm, blood pressure of 180/100 mmHg, and oxygen saturation of 92% on 2L oxygen. ECG shows ST-segment elevation in leads II, III, and aVF. Troponin I is elevated at 0.15 ng/mL. The patient is diagnosed with ST-segment elevation myocardial infarction (STEMI) and is taken to the catheterization laboratory for primary percutaneous coronary intervention (PPCI).

During the PPCI procedure, the patient develops a sudden decrease in perfusion to the anterior wall of the heart. The interventional cardiologist identifies a large, soft, and friable thrombus in the proximal left anterior descending artery (LAD). The thrombus is successfully aspirated, restoring antegrade flow. The patient is stabilized and transferred to the medical intensive care unit (MICU). In the MICU, the patient remains stable but develops a new-onset atrial fibrillation (AF) with a rapid ventricular response (RVR). The heart rate is 140 bpm, and the patient is experiencing lightheadedness and shortness of breath. The patient's blood pressure is 150/90 mmHg, and oxygen saturation is 95% on 2L oxygen. The patient's electrolytes are within normal limits, and there is no evidence of acute renal failure. The patient is diagnosed with AF with RVR and is started on intravenous (IV) beta-blockers. The patient's symptoms improve, and the heart rate is controlled at 100 bpm. The patient is discharged to the medical ward and continues to receive medical therapy for his underlying conditions.

QUESTION

### ANSWER

The patient's presentation is consistent with a STEMI, which is a medical emergency. The initial management includes oxygen, aspirin, and nitroglycerin. The patient is then taken to the catheterization laboratory for PPCI. During the procedure, the patient develops a sudden decrease in perfusion to the anterior wall of the heart, which is identified as a large, soft, and friable thrombus in the proximal LAD. The thrombus is successfully aspirated, restoring antegrade flow. The patient is then stabilized and transferred to the MICU. In the MICU, the patient develops a new-onset AF with RVR, which is a common complication of STEMI. The patient is started on IV beta-blockers, which successfully control the heart rate and improve symptoms. The patient is then discharged to the medical ward and continues to receive medical therapy for his underlying conditions.

ANSWER